



## See you on Facebook! A framework for analyzing the role of computer-mediated interaction in the evolution of social capital<sup>☆</sup>

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### ABSTRACT

Empirical studies have documented a decline in indicators of social participation in the last five decades. The responsibility of social disengagement has often been attributed to pervasive busyness and the increasing pressure on time. In this paper we argue that computer-mediated interaction, and particularly online networking, can help mitigate this downward trend. We develop a logical framework for assessing the role of the Internet in the evolution of social participation. We analyze an economy where agents can develop their social interactions through two main modes of participation, one encompassing both online networking and face to face interactions, and the other solely based on physical encounters. We study the interdependence between the increase in the pressure on time and the variation in the relative performance of the two strategies of participation.

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### 1. Introduction

Many empirical studies document that a decline in indicators of social participation has occurred in the last five decades (Paxton, 1999; Putnam, 2000; Robinson and Jackson, 2001; Costa and Kahn, 2003; Bartolini et al., 2011).<sup>1</sup> The most obvious cause of the tendency to reduce relational activities and drop out of community affairs is pervasive busyness. As Putnam (2000) writes in *Bowling*

*Alone*, a lack of time is in fact the most common explanation that Americans offer for social disengagement when interviewed in survey studies. Putnam suggests that endemic economic pressures, job insecurity, and declining real wages, especially among the lower two-thirds of the income distribution, may all be potential causes of disengagement (2000, p. 189).

Previous theoretical analyses of the evolution of social capital (Antoci et al., 2011a,b) have shown that aggregate social participation is strongly path-dependent, pointing out the possibility of a self-feeding cycle further accelerating the disengagement process.<sup>2</sup> As the social environment deteriorates, relational activities can become less and less rewarding. Agents may thus prefer to reduce their own social participation as well (Antoci et al., 2007, 2011a).

In this paper we argue that computer-mediated interaction, and particularly online networking, can help mitigate this downward trend. Even though, with respect to face-to-face interactions, online networking presents a number of easily guessable shortcomings, it certainly exhibits two major advantages: it is both less time intensive and less expensive.

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<sup>1</sup> The debate was raised by Putnam (1995) who found a significant decline in Americans' engagement in social and political activities starting from the 1970s. The robustness of this claim to the use of different indicators has since been tested by a number of subsequent studies. The overall findings of this literature seem to support the thesis that social capital has declined in the U.S., although not so dramatically as Putnam claimed.

<sup>2</sup> This finding is consistent with empirical analyses of historical trends (see for example Putnam et al., 1993; De Blasio and Nuzzo, 2010).

There are at least three reasons to suspect that web-mediated social participation can work as an effective strategy to protect the relational sphere of individuals' lives from the pressure of time. First, it is less exposed to the deterioration of the social environment that physically surrounds individuals. Online networking allows people to interact with friends and acquaintances even in distant locations. Second, it is less time consuming than face-to-face interaction. So, it suffers less from the reduction in the time available for social participation. Social networking sites like Facebook and Twitter allow users to stay in touch with friends in their spare time, while sitting at a desk during their working day or while waiting for the train. Third, online interactions contribute to the accumulation of an "Internet social capital" which benefits solely Internet users. A peculiarity of this kind of social capital is that it allows asynchronous social interactions: one can benefit from another's participation, for example through the act of reading a message or viewing a photo, even if the person who wrote the message or posted the photo is currently offline.

In our view, social participation through the Internet can be considered as a "defensive choice" allowing people to protect their relations from the rising pressure on time and from the possible decrease in opportunities for physical encounters. The spreading of this mode of participation can lead to second-best scenarios, in the case that face-to-face interaction is socially optimal. However, as shown in Antoci et al. (2011c), it may prevent the economy from falling into a "social poverty trap".

In this paper we develop a theoretical framework for assessing the potential role of Internet-mediated interaction in halting the self-feeding process of declining participation. To this purpose, we analyze an economy where agents can develop their social participation in two main modes: they can adopt a "social networking strategy", allowing them to participate both through online networking and face-to-face interaction. Or they can opt for a "face-to-face strategy", which does not encompass Internet-mediated interaction. In this case, all relationships take place through face-to-face encounters.

Our main objective is to point out the possible interdependence between the rise in pressure on time and the variation in the relative performance of the two strategies of participation. This operation is intended to provide theoretical research, as well as the rapidly growing empirical literature on the role of the Internet, with a logical framework for analyzing the causal nexus possibly connecting phenomena such as online networking, other forms of web-mediated communication, the evolution of human interaction, and the accumulation of social capital.

The remainder of the paper is organized as follows: in the next section we review the related literature. In Section 3 we present our framework. In light of this framework, Section 4 discusses the interdependence between the phenomena we are considering. The paper finishes with a few concluding remarks and considerations for further studies.

## 2. Related literature

For almost a decade, studies on social networking sites (SNSs) have been carried out in the fields of law and applied psychology, mainly pointing at issues like privacy risks and the effects of the Internet on teenagers' mental health. Early studies in the field of sociology mostly shared the fear that the Internet would cause a progressive reduction in social interaction. This concern was based on three main arguments. First, the more time people spend using the Internet during leisure time, the more time has to be detracted from social activities like communicating with friends, neighbours and family members (Nie, 2001; Nie et al., 2002; Gershuny, 2003; Wellman et al., 2001). These studies date back to shortly before

the explosion of online networking, and they could not differentiate between pure entertainment and social activities. At that time, using the Internet was predominantly an individual activity like watching TV or reading newspapers. Today, the use of the Internet is strongly related to being connected to SNSs, which in turn brings about engagement in social activities. According to data on the U.S. provided by the Pew Internet & American Life Project, as of September 2009 nearly three quarters (73%) of online teens (aged 12–17) and an equal number (72%) of young adults (18–29) use social network sites. This evolution makes any comparison between the Internet and TV anachronistic.

Second, the Internet allows users to conduct many daily transactions such as shopping or banking online from home (Nie et al., 2002; Franzen, 2003). Supporters of this argument suggest that to shop and carry out a number of tasks without leaving home may reduce face-to-face interaction. A straightforward objection is that transactions and other commissions often do not have particular relational implications. In fact, they divert time from relational activities. If we spend part of the day dealing with a bank or a public administration office, then we may be constrained to work more to make up for the hours lost, and to give up the intention of meeting friends. Obtaining a birth certificate or a bank statement online in just a few seconds from home allows us to gain more time for leisure and social participation.

A third more intriguing argument relies on the concept of "community without propinquity" (Webber, 1963) and on the earlier theories of the Chicago School of Sociology. In a famous paper, Wirth (1938) claimed that a heterogeneous urban environment would be characteristic of the absence of "intimate personal acquaintanceship" and would result in the "segmentation of human relations" into those that were "largely anonymous, superficial, and transitory" (Wirth, 1938, p. 1). This argument can be easily applied to the Internet, which seems to have the potential to fragment local communities into new virtual realities of shared interest that may negate the necessity of face-to-face encounters. The "anonymization hypothesis", however, has been challenged by results from studies specifically targeted at verifying the effects of online networking on communities living in a precise geographic location (e.g. a city area or suburb). The seminal paper in this field is probably the pioneer study by Hampton and Wellman (2003). Drawing on survey and ethnographic data from a "wired suburb" of Toronto, the authors find that high-speed, always-on access to the Internet, coupled with a local online discussion group, transforms and enhances neighbouring. The Internet particularly supports increased contacts with weaker ties, without bringing about a deterioration of strong ties. In the authors' words, "Not only did the Internet support neighbouring, it also facilitated discussion and mobilization around local issues" (Hampton and Wellman, 2003, p. 277). A similar study by Kavanaugh et al. (2005) on the Blacksburg Electronic Village concludes that computer-mediated interactions have positive effects on community interaction, involvement, and social capital.

Findings from the latest wave of studies (i.e. carried out between 2006 and 2010) on the relational effects of social networking unanimously converge on the claim that online networks support the consolidation and development of existing ties.

These works appear to be more reliable than those arguing for a possibly negative relationship between web-mediated interaction and social capital because they were conducted *after* the explosion of online networking. Thus, they specifically aim to assess the implications of SNSs.

According to this strand of the literature, SNSs support the strengthening of bonding and bridging social capital (Valkenburg et al., 2006; Ellison et al., 2007; Steinfield et al., 2008; Gilbert and Karahalios, 2009; Burke et al., 2009), allow the crystallization of weak or latent ties that might otherwise remain ephemeral (Haythornthwaite, 2005; Ellison et al., 2007), support teenagers'

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